

35

```
SEQUENCE LISTING
      <110> Lunsford, Lynn B.
            Putnam, David
            Hedley, Mary Lynn
      <120> MICROPARTICLES FOR DELIVERY OF NUCLEIC ACID
     <130> 08191/014001
     <150> US 09/266,463
     <151> 1999-03-11
     <160> 114
     <170> FastSEQ for Windows Version 3.0
     <210> 1
      <211> 23
      <212> PRT
      <213> Homo sapiens
      <400> 1
Gly Arg Thr Gln Asp Glu Asn Pro Val Val His Phe Phe Lys Asn Ile
Val Thr Pro Arg Thr Pro Pro
             20
      <210> 2
      <211> 22
      <212> PRT
      <213> Homo sapiens
      <400> 2
Ala Val Tyr Val Tyr Ile Tyr Phe Asn Thr Trp Thr Thr Cys Gln Phe
                                      10
Ile Ala Phe Pro Phe Lys
             20
      <210> 3
      <211> 13
      <212> PRT
      <213> Homo sapiens
      <400> 3
Phe Lys Met Arg Met Ala Thr Pro Leu Leu Met Gln Ala
                                     10
                  5
      <210> 4
      <211> 36
      <212> PRT
      <213> Homo sapiens
      <400> 4
Tyr Val Gly Leu Gln Leu Ile Gln Leu Ile Asn Val Asp Glu Val Asn
                                     10
Gln Ile Val Thr Thr Asn Val Arg Leu Lys Gln Gln Trp Val Asp Tyr
                                 25
             20
Asn Leu Lys Trp
```

```
<210> 5
      <211> 20
      <212> PRT
      <213> Homo sapiens
      <400> 5
Gln Ile Val Thr Thr Asn Val Arg Leu Lys Gln Gln Trp Val Asp Tyr
Asn Leu Lys Trp
      <210> 6
      <211> 7
      <212> PRT
      <213> Homo sapiens
     <400> 6
Gln Trp Val Asp Tyr Asn Leu
      <210> 7
      <211> 18
<212> PRT
      <213> Homo sapiens
      <400> 7
Gly Gly Val Lys Lys Ile His Ile Pro Ser Glu Lys Ile Trp Arg Pro
Asp Leu
      <210> 8
      <211> 12
      <212> PRT
      <213> Homo sapiens
     <400> 8
Ala Ile Val Lys Phe Thr Lys Val Leu Leu Gln Tyr
      <210> 9
      <211> 20
      <212> PRT
      <213> Homo sapiens
      <400> 9
Trp Thr Pro Pro Ala Ile Phe Lys Ser Tyr Cys Glu Ile Ile Val Thr
His Phe Pro Phe
      <210> 10
      <211> 13
      <212> PRT
      <213> Homo sapiens
     <400> 10
Met Lys Leu Gly Thr Trp Thr Tyr Asp Gly Ser Val Val
      <210> 11
     <211> 13
```

```
<212> PRT
      <213> Homo sapiens
     <400> 11
Met Lys Leu Gly Ile Trp Thr Tyr Asp Gly Ser Val Val
      <210> 12
      <211> 9
      <212> PRT
      <213> Homo sapiens
      <400> 12
Trp Thr Tyr Asp Gly Ser Val Val Ala
      <210> 13
      <211> 17
      <212> PRT
      <213> Homo sapiens
     <400> 13
Ser Cys Cys Pro Asp Thr Pro Tyr Leu Asp Ile Thr Tyr His Phe Val
Met
      <210> 14
      <211> 18
      <212> PRT
      <213> Homo sapiens
      <400> 14
Asp Thr Pro Tyr Leu Asp Ile Thr Tyr His Phe Val Met Gln Arg Leu
Pro Leu
      <210> 15
      <211> 21
      <212> PRT
      <213> Homo sapiens
Phe Ile Val Asn Val Ile Ile Pro Cys Leu Leu Phe Ser Phe Leu Thr
Gly Leu Val Phe Tyr
      <210> 16
      <211> 13
      <212> PRT
      <213> Homo sapiens
      <400> 16
Leu Leu Val Ile Val Glu Leu Ile Pro Ser Thr Ser Ser
      <210> 17
      <211> 19
      <212> PRT
      <213> Homo sapiens
```

```
<400> 17
Ser Thr His Val Met Pro Asn Trp Val Arg Lys Val Phe Ile Asp Thr
 1
Ile Pro Asn
     <210> 18
     <211> 18
     <212> PRT
<213> Homo sapiens
     <400> 18
Asn Trp Val Arg Lys Val Phe Ile Asp Thr Ile Pro Asn Ile Met Phe
Phe Ser
      <210> 19
      <211> 18
      <212> PRT
      <213> Homo sapiens
     <400> 19
Ile Pro Asn Ile Met Phe Phe Ser Thr Met Lys Arg Pro Ser Arg Glu
Lys Gln
      <210> 20
      <211> 16
      <212> PRT
      <213> Homo sapiens
     <400> 20
Ala Ala Ala Glu Trp Lys Tyr Val Ala Met Val Met Asp His Ile Leu
      <210> 21
      <211> 19
      <212> PRT
      <213> Homo sapiens
     <400> 21
Ile Ile Gly Thr Leu Ala Val Phe Ala Gly Arg Leu Ile Glu Leu Asn
Gln Gln Gly
      <210> 22
      <211> 20
      <212> PRT
      <213> Homo sapiens
      <400> 22
Gly Gln Thr Ile Glu Trp Ile Phe Ile Asp Pro Glu Ala Phe Thr Glu
                                      10
Asn Gly Glu Trp
             20
      <210> 23
      <211> 20
      <212> PRT
      <213> Homo sapiens
```

```
<400> 23
Met Ala His Tyr Asn Arg Val Pro Ala Leu Pro Phe Pro Gly Asp Pro
Arg Pro Tyr Leu
      <210> 24
      <211> 15
      <212> PRT
      <213> Homo sapiens
     <400> 24
Leu Asn Ser Lys Ile Ala Phe Lys Ile Val Ser Gln Glu Pro Ala
      <210> 25
      <211> 15
      <212> PRT
      <213> Homo sapiens
      <400> 25
Thr Pro Met Phe Leu Leu Ser Arg Asn Thr Gly Glu Val Arg Thr
  1
      <210> 26
      <211> 16
      <212> PRT
      <213> Hepatitis B virus
      <400> 26
Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro Ala Phe Gly Ala
      <210> 27
      <211> 17
      <212> PRT
      <213> Hepatitis B virus
Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro Ala Phe Gly Ala Asn
Ser
      <210> 28
      <211> 10
      <212> PRT
      <213> Hepatitis B virus
      <400> 28
Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile
      <210> 29
      <211> 10
      <212> PRT
      <213> Hepatitis B virus
      <400> 29
Arg Ile Leu Thr Ile Pro Gln Ser Leu Asp
                  5
```

```
<210> 30
      <211> 13
      <212> PRT
      <213> Hepatitis B virus
     <400> 30
Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
      <210> 31
      <211> 12
      <212> PRT
      <213> Mycobacterium leprae
      <400> 31
Ala Lys Thr Ile Ala Tyr Asp Glu Glu Ala Arg Arg
     <210> 32
      <211> 10
      <212> PRT
      <213> Mycobacterium leprae
     <400> 32
Val Val Thr Val Arg Ala Glu Arg Pro Gly
     <210> 33
      <211> 21
      <212> PRT
     <213> Homo sapiens
      <400> 33
Ser Gln Arg His Gly Ser Lys Tyr Leu Ala Thr Ala Ser Thr Met Asp
                                     10
His Ala Arg His Gly
             20
     <210> 34
     <211> 21
     <212> PRT
     <213> Homo sapiens
Arg Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe Phe Gly Gly Gly
Asp Arg Gly Ala Pro
     <210> 35
     <211> 20
     <212> PRT
     <213> Homo sapiens
     <400> 35
Gln Lys Ser His Gly Arg Thr Gln Asp Glu Asn Pro Val Val His Phe
 1
Phe Lys Asn Ile
             20
     <210> 36
    <211> 14
```

```
<212> PRT
      <213> Homo sapiens
    <400> 36
Asp Glu Asn Pro Val Val His Phe Phe Lys Asn Ile Val Thr
      <210> 37
      <211> 15
      <212> PRT
      <213> Homo sapiens
      <400> 37
Glu Asn Pro Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg
      <210> 38
      <211> 13
      <212> PRT
      <213> Homo sapiens
      <400> 38
His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr Pro Pro
      <210> 39
      <211> 14
      <212> PRT
      <213> Homo sapiens
Lys Gly Phe Lys Gly Val Asp Ala Gln Gly Thr Leu Ser Lys
      <210> 40
      <211> 20
      <212> PRT
      <213> Homo sapiens
Val Asp Ala Gln Gly Thr Leu Ser Lys Ile Phe Lys Leu Gly Gly Arg
                                    10
Asp Ser Arg Ser
            20
     <210> 41
     <211> 19
     <212> PRT
      <213> Clostridium tetanii
     <400> 41
Leu Met Gln Tyr Ile Asp Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu
 1
Leu Lys Lys
     <210> 42
     <211> 13
     <212> PRT
     <213> Clostridium tetanii
```

```
<400> 42
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
     <210> 43
      <211> 14
      <212> PRT
      <213> Clostridium tetanii
     <400> 43
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys
      <210> 44
      <211> 15
      <212> PRT
      <213> Clostridium tetanii
     <400> 44
Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
      <210> 45
      <211> 16
      <212> PRT
      <213> Clostridium tetanii
     <400> 45
Lys Phe Ile Ile Lys Arg Tyr Thr Pro Asn Asn Glu Ile Asp Ser Phe
      <210> 46
      <211> 12
      <212> PRT
      <213> Clostridium tetanii
      <400> 46
Gly Gln Ile Gly Asn Asp Pro Asn Arg Asp Ile Leu
      <210> 47
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 47
Ala Ala Arg Ala Val Phe Leu Ala Leu
      <210> 48
      <211> 8
      <212> PRT
      <213> Homo sapiens
     <400> 48
Tyr Arg Pro Arg Pro Arg Arg Tyr
     <210> 49
     <211> 9
      <212> PRT
     <213> Homo sapiens
```

```
<400> 49
Glu Ala Asp Pro Thr Gly His Ser Tyr
     <210> 50
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 50
Ser Ala Tyr Gly Glu Pro Arg Lys Leu
     <210> 51
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 51
Glu Val Asp Pro Ile Gly His Leu Tyr
     <210> 52
     <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 52
Phe Leu Trp Gly Pro Arg Ala Leu Val
     <210> 53
      <211> 7
      <212> PRT
      <213> Homo sapiens
      <400> 53
Gly Ile Gly Ile Leu Thr Val
      <210> 54
      <211> 8
      <212> PRT
      <213> Homo sapiens
     <400> 54
Ile Leu Thr Val Ile Leu Gly Val
      <210> 55
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 55
Ser Thr Ala Pro Pro Ala His Gly Val
                  5
  1
      <210> 56
      <211> 9
      <212> PRT
     <213> Homo sapiens
```

```
<400> 56
Glu Glu Lys Leu Ile Val Val Leu Phe
      <210> 57
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 57
Met Leu Leu Ala Val Leu Tyr Cys Leu
     <210> 58
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 58
Ser Glu Ile Trp Arg Asp Ile Asp Phe
     <210> 59
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 59
Ala Phe Leu Pro Trp His Arg Leu Phe 1
     <210> 60
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 60
Tyr Met Asn Gly Thr Met Ser Gln Val
      <210> 61
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 61
Lys Thr Trp Gly Gln Tyr Trp Gln Val
      <210> 62
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 62
Ile Thr Asp Gln Val Pro Phe Ser Val
      <210> 63
      <211> 9
      <212> PRT
     <213> Homo sapiens
```

```
<400> 63
Tyr Leu Glu Pro Gly Pro Thr Val Ala
      <210> 64
      <211> 10
      <212> PRT
      <213> Homo sapiens
      <400> 64
Leu Leu Asp Gly Thr Ala Thr Leu Arg Leu
      <210> 65
      <211> 10
      <212> PRT
      <213> Homo sapiens
     <400> 65
Glu Leu Asn Glu Ala Leu Glu Leu Glu Lys
      <210> 66
      <211> 9
      <212> PRT
      <213> Homo sapiens
      <400> 66
Ser Thr Pro Pro Pro Gly Thr Arg Val
      <210> 67
      <211> 11
      <212> PRT
      <213> Homo sapiens
     <400> 67
Leu Leu Pro Glu Asn Asn Val Leu Ser Pro Leu
      <210> 68
      <211> 9
      <212> PRT
      <213> Homo sapiens
      <400> 68
Leu Leu Gly Arg Asn Ser Phe Glu Val
      <210> 69
      <211> 9
      <212> PRT
      <213> Homo sapiens
      <400> 69
Arg Met Pro Glu Ala Ala Pro Pro Val
      <210> 70
      <211> 9
      <212> PRT
     <213> Homo sapiens
```

```
<400> 70
Lys Ile Phe Gly Ser Leu Ala Phe Leu
      <210> 71
      <211> 9
      <212> PRT
      <213> Homo sapiens
      <400> 71
Ile Ile Ser Ala Val Val Gly Ile Leu
      <210> 72
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 72
Cys Leu Thr Ser Thr Val Gln Leu Val
      <210> 73
      <211> 8
      <212> PRT
      <213> Homo sapiens
     <400> 73
Tyr Leu Glu Asp Val Arg Leu Val
     <210> 74
      <211> 9
      <212> PRT
      <213> Homo sapiens
     <400> 74
Val Leu Val Lys Ser Pro Asn His Val
     <210> 75
      <211> 12
      <212> PRT
      <213> Homo sapiens
     <400> 75
Arg Phe Arg Glu Leu Val Ser Glu Phe Ser Arg Met
     <210> 76
     <211> 10
     <212> PRT
     <213> Homo sapiens
     <400> 76
Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu
     <210> 77
     <211> 9
     <212> PRT
    <213> Homo sapiens
```

```
<400> 77
Asp Leu Pro Thr Gln Glu Pro Ala Leu
     <210> 78
     <211> 9
     <212> PRT
     <213> Homo sapiens
     <400> 78
Lys Leu Gln Cys Val Asp Leu His Val
     <210> 79
     <211> 10
     <212> PRT
     <213> Homo sapiens
Val Leu Val Ala Ser Arg Gly Arg Ala Val
     <210> 80
     <211> 9
     <212> PRT
     <213> Homo sapiens
     <400> 80
Val Leu Val His Pro Gln Trp Val Leu
     <210> 81
     <211> 10
     <212> PRT
     <213> Homo sapiens
     <400> 81
Asp Met Ser Leu Leu Lys Asn Arg Phe Leu
     <210> 82
     <211> 9
     <212> PRT
     <213> Hepatitis B virus
     <400> 82
Gln Trp Asn Ser Thr Ala Phe His Gln
     <210> 83
     <211> 7
     <212> PRT
     <213> Hepatitis B virus
     <400> 83
Val Leu Gln Ala Gly Phe Phe
     <210> 84
     <211> 8
     <212> PRT
     <213> Hepatitis B virus
```

```
<400> 84
Leu Leu Cys Leu Ile Phe Leu
     <210> 85
      <211> 8
      <212> PRT
      <213> Hepatitis B virus
      <400> 85
Leu Leu Asp Tyr Gln Gly Met Leu
      <210> 86
      <211> 6
      <212> PRT
      <213> Hepatitis B virus
     <400> 86
Leu Leu Val Pro Phe Val
      <210> 87
      <211> 10
      <212> PRT
      <213> Hepatitis B virus
      <400> 87
Ser Ile Leu Ser Pro Phe Met Pro Leu Leu
                5
      <210> 88
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
      <400> 88
Pro Leu Leu Pro Ile Phe Phe Cys Leu
      <210> 89
      <211> 10
      <212> PRT
      <213> Hepatitis B virus
      <400> 89
Ile Leu Ser Thr Leu Pro Glu Thr Thr Val
      <210> 90
      <211> 10
      <212> PRT
      <213> Hepatitis B virus
      <400> 90
Phe Leu Pro Ser Asp Phe Phe Pro Ser Val
      <210> 91
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
```

```
<400> 91
Lys Leu His Leu Tyr Ser His Pro Ile
      <210> 92
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
      <400> 92
Ala Leu Met Pro Leu Tyr Ala Cys Ile
      <210> 93
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 93
His Leu Tyr Ser His Pro Ile Ile Leu
      <210> 94
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
      <400> 94
Phe Leu Leu Ser Leu Gly Ile His Leu
                 5
     <210> 95
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 95
His Leu Leu Val Gly Ser Ser Gly Leu
1
      <210> 96
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
      <400> 96
Gly Leu Ser Arg Tyr Val Ala Arg Leu
      <210> 97
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 97
Leu Leu Ala Gln Phe Thr Ser Ala Ile
     <210> 98
     <211> 9
     <212> PRT
     <213> Hepatitis B virus
```

```
<400> 98
Tyr Met Asp Asp Val Val Leu Gly Ala
      <210> 99
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
      <400> 99
Gly Leu Tyr Ser Ser Thr Val Pro Val
      <210> 100
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 100
Asn Leu Ser Trp Leu Ser Leu Asp Val
     <210> 101
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 101
Lys Leu Pro Gln Leu Cys Thr Glu Leu
     <210> 102
      <211> 9
      <212> PRT
      <213> Hepatitis B virus
     <400> 102
Leu Gln Thr Thr Ile His Asp Ile Ile
      <210> 103
      <211> 9
      <212> PRT
      <213> Human papilloma virus
     <400> 103
Phe Ala Phe Arg Asp Leu Cys Ile Val
      <210> 104
      <211> 9
      <212> PRT
      <213> Human papilloma virus
     <400> 104
Tyr Met Leu Asp Leu Gln Pro Glu Thr
     <210> 105
     <211> 9
     <212> PRT
    <213> Human papilloma virus
```

```
<400> 105
Thr Leu His Glu Tyr Met Leu Asp Leu
     <210> 106
      <211> 9
      <212> PRT
      <213> Human papilloma virus
     <400> 106
Leu Leu Met Gly Thr Leu Gly Ile Val
     <210> 107
     <211> 8
      <212> PRT
     <213> Human papilloma virus
     <400> 107
Thr Leu Gly Ile Val Cys Pro Ile
     <210> 108
     <211> 12
      <212> PRT
     <213> Human papilloma virus
     <400> 108
Leu Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile
     <210> 109
     <211> 16
     <212> PRT
     <213> Human papilloma virus
     <400> 109
Leu Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile Cys Ser Gln Lys
     <210> 110
     <211> 13
     <212> PRT
     <213> Human papilloma virus
     <400> 110
Leu Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile Cys
     <210> 111
     <211> 9
     <212> PRT
     <213> Human papilloma virus
     <400> 111
Thr Leu Gly Ile Val Cys Pro Ile Cys
     <210> 112
     <211> 17
     <212> PRT
     <213> Xenopus laevis
```